

121

THE
AGRICULTURAL MUSEUM:

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For the Agricultural Museum.

WHEAT IN FALLOW OR WHEAT AFTER CORN.

Whether it is best to fallow as a preparation for wheat, or to seed wheat after Indian corn?—That is the question.

Mr. Editor,

I feel a suffusion over my cheeks, as if I expected the farming world to exclaim, “*who can that ignorant mortal be, who has been so completely isolated as to pen such a question?—a question so long settled by the practice of all the best farmers, and the best farming districts, in the United States.*”

For my own part, I have, ever since I became a farmer, considered it as a point established beyond controversy, by the best and most extended experience. Nothing but my respect for the agricultural opinions of one of my neighbours, who is among the most judicious, industrious, observant and thriving farmers in this part of the country, could have induced me to undertake the humble task of treading back the beaten path of ages of experience, in the investigation of a question so well settled, and so long dormant.

There is no doubt that my neighbour was in earnest; for in addition to his never jesting, and making the declaration of his opinion seriously, he observed that so thoroughly was he convinced of the truth of that opinion, that although he had now been fallowing for fourteen years, and had his plantation laid off into four divisions or shifts, for the express purpose of fallowing, yet he was determin-

wined to reduce his plantation to three shifts, and leave off
harrowing altogether.

ing s. I am sorry I have not been able to see this gentleman,
since he has formed this opinion, and to take ocular
proof, so far as one crop would admit, of the correctness
or incorrectness of his opinion on this point, relative
to his own farm. I will allow, that there may be peculi-
ar reasons that apply to the land on that farm alone,
which would not justify a broad opinion applying to all
lands. A circumstance that gave some weight to the
opinion of my neighbour, and that operated on my mind
as an auxilliary inducement to its investigation, was, that
after I had heard of it, however untenable it appeared to
me, I remembered to have read last year (I think in a Fre-
dericksburg print) a speech of the president of an agricul-
tural society, in some of the counties in the northern neck
of Virginia, which maintained an opinion somewhat simi-
lar. The president whose name I forget, but who was
certainly a man of superior mind, went into a calculation,
apparently a very fair one, to shew that (circumstances
considered) the mode of cultivation pursued in that coun-
try, was the most profitable they could pursue: that
is, to sow wheat after Indian corn. The president did
not say that wheat would yield more after corn than in
fallow, or that land improved by that mode; but that it
was the most profitable mode—that it would raise most
money to the tiller of the soil, labor considered, &c. It
was left for my neighbour to assert roundly, that a field
would yield more wheat, immediately after corn, than
in fallow, and that land did not improve by fallowing.

The opinion that wheat after corn is the most profita-
ble way in which land can be cultivated, is, with all due
deference to the gentleman of the Northern Neck,—not
true—so far as it relates to the *proprietor* of the land.—
Can we have a better proof of it, than the face of that
part of Virginia, compared with the back parts of Ma-
ryland—with Pennsylvania—and all the wheat fallowing
countries, where the land improves yearly, and lays up
an imperishable capital for the proprietor, that cannot so

easily be wasted as specie? If I was a tenant at will, or for a short term, and my land-lord, as is mortly the case, ignorant of farming and inattentive to the improvement of his land, it would be my aim, if I had the smallest outlet or common for my stock, to lay off my land in two shifts only; if there was no common or outlet, I would lay it off in three shifts, and cultivate wheat after corn; for in the first place, it would take less labor, and enable me, with few hands, and a small team, to cultivate a great deal of ground:—and in the next place, it is certainly the most effectual mode of drawing off, in the shortest time, the whole substance or vegetable nourishment of the soil, and of gleaning effectually the growth of the pasture land, as well as of the cultivated land, and of converting the whole strength of the soil into grain or cash. This answers exactly for the tenant—he makes money fast—and when one plantation is done for, or much weakened, he can find a better. But what becomes of the proprietor? His tenement, say, contains 200 acres of arable land, divided into 2 shifts of 100 acres each, which yields the first year the tenant takes it, 15 bushels to the acre—equal to \$ 1500, of which he receives a third as rent, or \$ 500—making his land equal to a capital of more than 8000 dols. In 5 years time, under that mode of cultivation, the capital would be reduced one half. But suppose this 200 acres laid off into four shifts, and that the tenant was debared by his contract from sowing wheat after corn—He must then fallow, if he makes wheat, and so two shifts would be every year in cultivation, one in reserve with young clover growing, and the fourth in pasture.

In addition, there would be the fall growth of grass, of the corn field, and the spring growth of the wheat field, for manure and the amelioration of the land—a portion of which might be eaten off, and still always keep the land covered, and sheltered from the exhaustion occasioned by naked exposure to sun, wind and frost, and the unimpeded washing of hard rains. By this mode, though the capital would be rather smaller at first—it would im-

improve rapidly. The increase of grass and clover hay would enable the farm to support a fine team—the most important article towards good cultivation.

Before I turn to the question proposed, I must premise, that I am merely about to compare the two modes of cultivation mentioned above. I do not mean to maintain, that naked summer fallowing, however late in summer, is the best mode of farming. My present object is solely to compare that mode of seeding wheat, to the mode of seeding after Indian corn. I am aware of the disadvantages of summer fallowing, and that better modes have long since been suggested. And I have heard of the recent ideas of the celebrated Mr. Davy, though I have not been fortunate enough to see his work. These things premised, I will now, as fairly as I can, investigate the questions proposed, and go into an enumeration of the advantages and disadvantages of fallowing, and of the advantages and disadvantages of wheat succeeding corn.

The advantages of fallowing are,

1st. That it requires a farm to be divided into four divisions; by which means, with proper management, one may always have plentiful pastures, and still keep the ground coated and sheltered.

2dly. The spring and summer crop of grass, which after having shaded and protected the soil from the violent exhalations of the summer sun, is turned in, in August, to serve as a coat of manure to the wheat crop.

3dly. No stalks of corn being on the ground, the land can be ploughed deeper, the roller and heavy harrow can be used to advantage, and the field thereby handsomely laid in beds, with deep furrows between each, communicating with head furrows and main ditches for the draining of the land, where it is flat and holds water; and where the land lies naturally draining, and water never stands, the field can be uniformly and completely smoothed off and levelled after being thoroughly stirred with the plough, without the least loss of ground in furrows, drains, and ditches. When the season is a good one, and the earth is sufficiently moist, and not too much

so, but every way in good order, a field in the usual mode of fallowing, may be made to look like a well cultivated garden, laid off in broad, clean, and well raised beds, divided by clear, straight furrows, all communicating with each other by means of the head land furrows, and these last with the main ditches, wasting no more land than is absolutely necessary for carrying off the water. But though a field laid off in handsome broad beds, looks best at first, yet where the land lies sufficiently draining, the best way—the most profitable way, is to have no dividing furrows, but to smooth off and level the whole surface of the field, leaving no cups or holes to hold the water.—This is the advantage of complete and handsome preparation.

4thly. When no Indian corn crop or spring grain has been grown upon a field, the year wheat is seeded, the exhaustion must unquestionably be less—less has been taken away, more nourishment must therefore remain in the earth for the wheat fallow, than if an Indian corn crop or spring grain crop, had been taken from it, and if that nourishment or pabulum which is thus left, does not increase the quantity of wheat, it can be the fault of the cultivation alone. It must be because the land is not sufficiently prepared—either the grass has not been completely subverted, or not so covered with earth, as to rot in time for the wheat to take root, but holds the earth in too open and drying a state, by reason of the quantity of chaffy matter badly covered. So that the young seeded wheat dies before it can get hold of the firm moist earth. Bad team, bad ploughs, bad ploughmen, often fallow in this manner. Another cause why fallow sometimes fails, or succeeds badly, is where the ground is broken up, when it is not in order for ploughing, (we are not unfrequently compelled in the last of summer to break the fallow when the ground is altogether too dry to plough) by which it happens that the field is all over covered with large clods, and sods; and without pains and labor so continues, and so is seeded; and then we may well imagine that the whole nourishment or pabulum of the wheat is

not taken up by the crop on the ground, but remains in bare earth or is absorbed by weeds and grass which help to destroy the wheat. But with foresight or with labor, with the heavy harrow, the roller and the plough, you have a remedy for this evil. These defects in cultivation, are the only causes I can conceive, why wheat seeded on ground fallowed in August, does not yield as abundant a crop as wheat seeded in Indian corn land. It is a fact notorious, and has been observed a thousand times, that, after taking a full crop of Indian corn from a field, it is in vain to expect a proportionate crop of wheat to follow it. This fact which is well ascertained, and of which there is not the smallest doubt, proves beyond contradiction, that seeding wheat after Indian corn is not the right mode of making a crop of wheat, or of improving the land.

The idea that fallowing injures land is to me unintelligible; unless we suppose the exposure to the sun to do more injury than the ploughing and coat of grass turned in do good; or unless it proceeds from ploughing when it is too wet, and by that mean baking the land to an impenetrable degree—or by ploughing when it is too dry, and breaking the land into hard clods. These evils, occasioned by unseasonable and injudicious ploughing; are very difficult to remedy, and require much labor and pains, and are among the most frequent causes of the loss of crops, and of serious injury to the soil, but ought not to be attributed to fallowing. When land is in order for ploughing (neither too wet nor too dry) it is friable and crumbly, and breaks easily with the least labor to horses, and as it is turned over by the plough, crumbles to pieces. One ploughing, when the land is in order, will prepare it better for a crop than three ploughings when it is not in order; but this every farmer who has any observation or experience knows perfectly well. I mention it merely for the sake of those who wish to be farmers.

The exposure of land by fallow to the summer sun, is one of its disadvantages; but land in Indian corn is exposed for a much longer time.

The other disadvantages of fallowing are, the labor, which is considerable, the occasional difficulty, on account of drought and wet, of preparing the land handsomely, and the length of time it takes in dry windy seasons, for the grass to rot; especially if not well turned over and covered.

The labor of preparing a fallow is considerable in the old mode of fallowing; but after, by repeated ploughings, you have your land well lightened up, (especially where your cattle and horses are not suffered to trample and poach it during the winter months) and well taken in clover, one ploughing and two harrowings are said to be amply sufficient.

I once saw a field that was rich and well taken in yard-grass, prepared for corn by a single ploughing, which had turned over the sod completely from one end of the field to the other. After the ploughing a light harrow was passed over the ground in the same direction with the plough. This filled up the intervals between the furrows. The ground was then marked off into rows, and the corn was planted and no more work was done to it, except occasionally hauling a little dirt with the hoe over the grass, where it put up between the furrows, being badly covered by the harrow. When I saw it, the corn was made, and it was for the time of year the cleanest field I ever did see. I went into it and examined the sod, which I found lying exactly as it had been turned over when it was first broken up. It yielded 9 barrels to the acre. This answers in rich well sodded land, and we may all get our land close well set in clover, and then we may cultivate in this manner for wheat and corn too, but when will that mode prevail generally in this part of Maryland? ever or never? If I understand rightly, that is Mr. Davy's mode—no doubt the easiest, the cheapest, the most productive mode ever discovered for cultivating rich well sodded land.

We have enumerated the advantages of fallowing, and now we will see the advantages of seeding wheat after corn.

1st. The cultivating of corn pulverizes the earth well, and destroys the weeds. A good deal of grass is however commonly found in corn fields at seeding time.

2d. It saves labor.

3d. By lessening the number of shifts it saves rails

4th. It enables one to cultivate more land

The disadvantages are, that you cannot prepare corn land well for wheat, because the land lies uneven in hills and holes and narrow lands. The billocks dry too much, the holes between the hills form cups that hold water, which either drowns, freezes, spews up, or scalds the wheat.

The narrow rows in which corn is generally planted with furrows between each, wastes a fourth of the ground. The wheat crop suffers from the exhaustion occasioned by the corn crop, and the soil suffers by the severe and double exhaustion of two grain crops succeeding each other.

In the enumeration of the advantages of the fallowing system, I have barely mentioned the consequent division of a farm into four shifts, and did not state all advantages resulting therefrom. With four separate divisions, you have enclosures sufficient to give your clover an opportunity of getting in blossom before you turn in your stock; and then they must be numerous if they can destroy. You can relieve a pasture and give it time to recruit, and always keep it well covered, which is all-important to the land, as well as to the stock.

By not sowing wheat after corn you have the advantage in the corn field and wheat field, of the fall growth and spring growth of grass. So that pasturage of the best kind will always be abundant. You will be enabled to keep a fine team of fat horses—you will have fat beef, fat mutton, fat calves, fat pigs and plenty of hogs, plenty of milk and butter for your table, and some for market; but I would not have too many, if I wished to improve my land. These advantages cost two extra ploughings and two harrowings, both well done—not by halves.—Now on a plantation divided into three shifts with no

outlet, or an indifferent one, you are obliged to buy every article you eat, or else live on lean meat, without butter. Every thing is scarce on these plantations. Every living thing looks gaunt and hungry, and pinched. Let a man of the smallest observation, visit a fallowing country, where they necessarily abound in grass, and then let him visit the land tended in three shifts and two shifts. It is like going from the land of Egypt into the deserts of Ethiopia. Here are squalid lazy negroes, lean horses, poor cattle, runty hogs, hardly such a thing as veal or mutton fit to eat, pastures gleaned bare, parched; in fine, animated nature in a constant state of suffering, and the land exhausting, all for the want of sufficient *labor* and proper management.—Whereas let the same person go into the farming and fallowing countries and view the contrast—there it will be more rare to see a lean working horse than he found it before to see a fat one, and every where he will find abundant pastures preserving and improving the soil, and the farmer abounding in all good things, and proud of the sleekness and beauty of his herds and flocks.

If by six weeks extra labor, and four instead of two or three enclosures, I find that I can live in plenty, and have a few *fat cattle*, &c. to share and improve my land, and all things considered and taken into the calculation, find that even from the commencement of the two plans, I make from my land very little less *ready money*, I am determined to continue fallowing, in preference to seeding wheat after Indian corn.

A ST. MARY'S FARMER.

Cure for a Disease in Apple Trees.

Mr. Forsyth has discovered a Remedy for a Disease in Apple Trees, arising from an insect like a white efflorescence, which being bruised between the fingers, gives out a blood-red fluid. The remedy consists of a mixture of human urine and cow dung, of the consistence of paint, wherewith the infected trees are to be anointed about the end of March.

AGRICULTURAL

Communicated for the Virginia Argus.

The Agricultural Society of Richmond, having received some valuable communications from very respectable correspondents, the benefit of which they are desirous of extending, as quickly and as diffusively as possible, amongst their agricultural brethren, have directed a publication in your paper of the following:

1. The copy of a letter from W. C. Nicholas, of Albemarle, to Mr. Rodman, of N. Carolina, concerning the culture of Hemp, communicated by Mr. Nicholas, addressed under cover, to the Society.
2. A letter from J. S. Slaughter, of Culpeper, to the Secretary, conveying an answer to certain queries lately proposed by the Society.
3. A communication from Theo: Armistead, of Norfolk, relative to the preparation of *Tannin*, for exportation; a new subject of rural economy, particularly interesting to the farmers of the Middle Country.

No. I.

SIR,

MAY 4th, 1811.

Your favor of the 24th March was received by the last mail. Your application to me for instructions respecting the cultivation of Hemp, required no apology; the little success I have myself experienced, is due to the kindness of those to whom I applied for information when I began the culture. This imposes on me the obligation of imparting to others, what was so liberally communicated to myself. Another motive, of itself irresistible, is, my earnest desire to promote the prosperity of my country, to which I presume, nothing can more contribute than varying the useful products of our soil, so as to prevent the consequences which would necessarily flow from confining the agricultural labor of the country to the production of a few articles.

Hemp has strong recommendations, it is intrinsically, worth as much as cotton, is applicable to most of the uses to which cotton can be applied, and to others for which cotton will not serve ; to commerce it is indispensable ; and is the material of the manufacture best suited to our wants, and to our population. When imported, Hemp must be paid for with money, as it is the product of countries exclusively agricultural, which take none of our productions in exchange. Its bulk, and the distance of the countries whence it is brought, render the expenses of transportation almost equal to the prime cost. It does not impoverish land, nor does it interfere with any of the crops we cultivate, except Tobacco. Hemp is sown before Corn is planted, and is not pulled until the corn no longer requires cultivation ; it needs no attention at the periods when wheat demands the labor of the farm, either for sewing, harvesting or threshing. From these remarks you will learn my opinion of the value of the Hemp crop, in its relation to political as well as rural economy. The interference of public duties, and ill health, have prevented me from giving so much attention to this culture, during the short period I have been engaged in it, as I could have wished, and I regret that my information will not be so ample and satisfactory as I desire.

I am inclined to believe that your climate is not the most suitable to hemp, the plant may grow as large, and perhaps larger than in higher latitudes, but I expect that the bark will be lighter and coarser. My residence is twenty miles east of the Blue Ridge, and I doubt whether it would be possible with the same management, to make as good hemp at this place as could be made west of the Alleghany. It is true that hemp is made in considerable quantities, in Spain and Italy ; but as the most maritime and commercial nations of Europe derive their supplies from Russia, I conclude that the northern hemp must be the best. I will now answer, with as much success as I can, your inquiries—

Question 1.—What is the kind and quality of soil most proper for hemp?

Answer.—A dark rich loam. I have not found land in which either sand or clay predominates very favourable for hemp. On rich sandy land, the hemp grows to a great height, but the bark is coarse and light. On stiff clay I have never seen the hemp tall enough to yield a great crop. The plant depends chiefly on a long tap root, furnished with a few fibrous roots; the tap root penetrates to a considerable depth, and consequently requires a deep soft soil, and deep and thorough cultivation.

Q. 2.—Whether its being wet is an advantage or disadvantage?

A.—I learned very early that wet land did not suit hemp, and my experience confirms the fact; so entire is the conviction on this point where both hemp and flax are cultivated, that “flax in the water and hemp in the fire” has become an agricultural adage.

Q. 3.—At what time is it best to sow hemp seed, and whether it would answer to sow in the fall, as I have been informed has been done in Virginia?

A.—The usual time of sowing west of the mountains, whence I obtained all the information I possess, excepting what I have acquired by the practice of three years, is from the 15th of April to the 19th of May. The month of April is there esteemed the best time for sowing, and, in that climate it may be, but, in this part of the country, the month of March is preferable. The best crops I have made, were sown in March. Last year the early sowing was considered the worst hemp until the crop was broken, when it appeared that the bark of the late sown was much lighter, although the hemp was taller.

The spring of 1810 was more unfavorable to spring crops than we have ever known, our land was never wet from the 1st of May till the 20th June, and if after such a season, early sown hemp proved better than that late sown, its superiority in common years will not be ques-

tioned. The advantages of early sowing are not confined to the single circumstance of producing superior bark, but by having an early growth it smothers all other plants and weeds, and before the Sun becomes very powerful, covers the ground, shades it, and preserves its moisture. I have never known hemp seed to be sown in the fall, and am therefore unable to say whether it would answer or not, but in sowing early land that had been in hemp the preceding year, I have always found some volunteer hemp, of considerable height, which must have sprung from seed accidentally scattered the fall before. Of this I am certain, that hemp is a very hardy plant, and that frost to kill it, must be very severe. I cannot however assert that it would stand the winter, but I am persuaded that if it would, the crop would be superior to a spring sown crop. My choice is to sow as early as possible, after the danger of the frost is over. I will take the liberty of adding to my answer to this query, my opinion that no plant requires the land to be more thoroughly and perfectly prepared; it should be broken at least ten or twelve inches in depth, and be loose and fine before it is sown: I effect this by trench ploughing in the fall, and plough at least twice afterwards; my last operation, previous to seeding, is to harrow the ground, in order that the seed may be sown on a surface perfectly smooth and level, which enables the seedsman to distribute it equally; I then plough it in, and in that state the land is left. When I commenced the culture, my practice was to harrow in the seed, but abandoned it on observing, that the land was more apt to bake in the smooth order it was left by the harrow, than in the state which the plough leaves it. When a rain fell before the seed came up, on ground that had been harrowed, I observed a crust had been formed on the surface, through which the tender sprout could not penetrate, and which forced it to turn down; in that situation many plants perished. I once had a sowing of eight or ten acres, on which I knew seed enough had been put, made too thin, for the cause I mention.

For the same reason, hemp is more easily pulled after the plough than the harrow : land that is harrowed being found closer and harder than that on which the last operation was with the plough. Farmers differ in opinion as to the quantity of seed that ought to be sown ; five pecks to the acre, is however more generally approved of than any other quantity ; I concur with this opinion in the main, but upon old or very foul land I have sown six pecks advantageously. It appears to be universally admitted that the crop is not injured by sowing too much ; that only so many plants will rise as the land will bear, and that the waste of superfluous seed is the sole loss to be apprehended. If this be true (and nothing but the concurrent assertion of all the hemp makers I have conversed with could convince me of the fact) it is certainly better, always to give too much seed, and by this you will be secured likewise from the ravages of birds, worms, &c. I never saw a thin crop of hemp, that was good.— In a crop of hemp, about one half of the stalks bloom, and the other half bear the seed. And the following are the indications of its being fit to pull. The stalks of the blossom of male hemp, turn yellow, become a good deal speckled, and drop most of their leaves, and when the air is still, a very perceptible cloud of dust rises from the blossom stalks, and hangs over the field. When ripe, the sooner it is pulled the better. As it is pulled, it is to be laid in rows as thin as possible over the land on which it grows ; after being pretty well cured on the ground, it must be bound into sheaves with some of the shorter hemp and put up in shocks open at the bottom, in which state it should remain, until sufficiently cured to be put into large stacks or ricks, when it should be removed to the land on which it is to be dew rotted. The stacks or ricks should be so constructed as to expose only the roots the outside, and if the tops of the stacks be covered with hemp, they should be peeled the latter end of Sept. from which time, in most seasons, what is exposed on the surface will be half rotted ; the hemp taken off should be sown apart from the rest, to rot. When it is safe to house

corn, and not before, the crop of hemp may be spread to rot, taking care again, to separate the out sides of the tops of the stacks, which will rot sooner than the hemp within the stacks. Hemp ought to be spread so thin as to cover at least 3 times as much ground as it grew upon. The length of time requisite to rot hemp depends upon the weather, and it should be examined frequently. To ascertain when the hemp is sufficiently rotted, if after crushing seven or eight stalks with your hands and holding them eighteen inches or two feet from each other, the herd or stalk will shake out and separate easily from the bark, leaving it clean and entire, the process of rotting is completed. Your own observation and attention will soon make you acquainted with this part of the business, and better than can be effected by any written instruction. There is no risk, for by submitting it to the break (until you become skilful enough to judge without that trouble) you can easily provide against taking up your hemp too soon, and the frequent repetition of the same experiment will secure you from the danger of its being over done. The precise point to aim at, is to take up the hemp at the moment when the bark or lint will separate from the stalk, without being rolled or weakened.—The bark or lint of hemp is connected with the stalk by a substance which must be either rotted or dissolved before they will separate; produce the separation, and the work is accomplished. I have been prevented, frequently, by the weather, for eight or ten days in the month of March, from taking up hemp that was sufficiently rotted, and have never experienced any inconvenience from it; in cool or even cold weather it is not easily injured by exposure. When your hemp is sufficiently rotted take it up, and put it in stacks of 100 wt. each, tying them at the top with hemp. It should be perfectly dry when stacked. The business of the farm should be so arranged that you may commence breaking as soon as the hemp is ready; for it is subject to loss and injury proportionate to the time you delay it. My hemp when broken, is baled in a box made like a cider press, across the bottom

four ropes are laid to tie the hemp when pressed into the box with a common prize.

5th Query. What are the kinds of machines for breaking, scutching or swingling hemp, and where are they made?

Answer. We use nothing but a break similar to a flax break, but larger. My breaks are six feet long, 36 inches wide at one end of the break, and twelve at the other end—with four swords in the frame and three in the upper part of the break—With this instrument, (which any person may make who can make an helve to a hoe or an axe) our hemp is broken and cleaned. With one of these a man will break, clean, and prepare for market in one day, from 80 to 150 lbs. accordingly as the order of the hemp, its quality, and the state of the weather may be more or less favorable.

6th Query. What quantity of hemp have you made to the acre?

Answer. Various quantities. When I commenced the culture, I was not only uncertain what parts, but, whether any part of my land would bring hemp; in some instances I have been sadly disappointed, and in others, agreeably surprised. My average crop from all the land I have sown has not been satisfactory; a good deal of it was unfit for hemp; many acres indeed were not worth pulling; other fields on the contrary yielded more than I ever expected from them. I will give you a statement of the crops of one of my farms for three succeeding years.—The land has not been surveyed, but I am convinced it does not exceed eighteen acres. From this land I made in the year 1808, 16500 wt. in 1809, 15000 wt. and in the year 1810, 14900 wt. The deficiency of the crop of last year, I ascribe to the extraordinary drought of the last spring.—The result of this experiment was the more satisfactory, as it enabled me to make an accurate comparison between the produce of hemp and tobacco on the same land.

In the year 1807 I had all the land (and about thirty thousand hills more) in tobacco that I afterwards sowed

in hemp.—That part of the land which was sown with hemp had brought a fine crop of tobacco, and yet I made more lbs. of hemp from it alone, than of tobacco (with the product of the additional thirty thousand hills included) with less labor, and less interference with the wheat and corn crops. This experiment I deem very satisfactory and conclusive in favor of hemp. On another farm I made last year, twelve thousand weight of hemp from about 25 acres, of which, five acres at least, were not worth pulling, and that I have this year, either thrown out of the culture or manured highly.

7th Query. What is the best mode of steeping or watering, and whether you have tried the French process by hot water and soap?

Answer. This question I have purposely delayed answering, because it is one of great difficulty, and my own experiments do not afford me very satisfactory means of solving it. In 1808, when I made my first crop of hemp, I was entirely ignorant of every mode of managing it. I thought it safer to adopt the method that had been practiced, in the small way, in this part of the country, where hemp had long been raised, by some people, for making rope for the use of their plantations, and to familiarise my people to the culture, before I ventured on any innovation. The inducements to water rotting are strong; the hemp is said to be better, and of course commands a better price. I therefore felt considerable anxiety on this subject. The French process appeared to me, impracticable on a large scale, for the bulk of hemp when good, from 70 or 80 acres of land, is immense. The streams convenient to me, were objectionable; liable to be suddenly raised so as to endanger the hemp, by carrying it off, or to injure it by making deposits of mud.—I therefore availed myself of a wide and deep ditch at the foot of a hill, which I enlarged, and where I had a perfect command of water, being able to let off or on at pleasure. I was pleased with the situation, and made it large enough to hold as much in the stalk as would yield about 800 or 1000 wt. of clean hemp. In this place I have

fried water rotting two years ; the result has not been very satisfactory ; the labor of putting in, taking out, drying and securing, is very great and unpleasant. The hemp managed in this way is more tedious to break ; my people cannot break more than half as much water rotted, as of dew rotted, and my observations induce me to believe that the loss is much greater. I believe also, that in one respect, the hemp is injured, by breaking the fibre of the bark. From a small experiment that I made last year, of rotting hemp in the river, I am inclined to suppose, that where it can be immersed in large volumes of water (free from the risk I before mentioned) the object would be accomplished with more certainty.—I think that in my ditch or pond, the quantity of water, is insufficient for the hemp. The water rotted hemp I have sent to market, has certainly commanded a readier sale and higher price than dew rotted ; but I question if I have been more than reimbursed the extra labor, and loss of hemp, in the way I have managed it. I would not have you infer from this, that I mean to abandon water rotting, or that I am prepared to say that it is not the most eligible mode of managing hemp. My opinion of the loss is conjectural, and I will, the ensuing fall, make some experiments to ascertain the matter with precision ; if I succeed in watering it properly, I feel almost convinced that the difference will be found not to exist in breaking at least ; this however, I deem of small consequence, as I am satisfied that we shall soon break our hemp by machinery that will very much diminish the labor. My experiments in water rotting shall be very much diversified, as I am still sanguine in my expectations that I, or some other person, will succeed in discovering the right method. Should it be my good fortune, it will give me real pleasure to communicate the result to you, and to my other countrymen, through the Richmond Agricultural Society, to which I intend to present a copy of this letter. The most unpleasant labor in the hemp crop, and that which presses most, is pulling ; to pull a quarter of an acre, is said to be a day's work for a man. In the West

tern country it is cut with a knife or hook, and it is said to be as easy to cut half an acre as to pull a quarter.— This is important in two points of view; it saves labor, and will enable you to double your crop of hemp, for the crop of hemp a man can make, is limited only by the land he has proper for its production, and his ability to save it in due time. It is easy to sow, to rot and to break much more than it is practicable to manage in the season of harvest. It is true that cutting will occasion some loss of weight, but I am convinced the hemp will be more valuable. The bark of the root disfigures the appearance of the hemp, and cannot be spun to advantage with the finer part of the bark of the stalk above the root.—Most of the roots indeed are broken off and lost by the break. Hemp seed is made by suffering a part of the crop to remain until it is ripe, or by drilling it and cultivating it like corn, taking care to pull up in good time the stalks that will not bear seed.

I will take the liberty to add to this letter, long as it already is, a comparison between the labor necessary for a crop of hemp and a crop of tobacco, from which it will be obvious, that the former interferes less with other crops, and requires, like wise, much less labor. It is known that hemp does not exhaust the land; while growing it shades it completely; it prevents it from washing, deposits a considerable quantity of leaves and farina, and if the herds be used in a farm yard, their absorbent properties render them an excellent material for manure.— Upon a plantation of 300 acres of open land, in which from 90 to 100,000 tobacco plants are cultivated, ten hands must be employed all the year; this crop with as much corn as will support the plantation, and ten bushels of seed wheat to each hand, is as much as can be managed, with the utmost industry and attention, and every facility that can be derived from good teams and implements of every sort. The produce of this labor when applied upon good land I estimate as follows, and this I know to be a fair average—

1500 wt. of tobacco at—\$ 6 -----	is -----	90
100 bushels of wheat -- 1 -----		100
		<hr/> \$ 190

\$ 190 to each hand is for ten hands \$ 1900

Deduct for the annual hire of each
hand — taxes, maintenance and
tools, \$ 80 each

800
— 1100

On a farm of equal size, I would
sow 120 acres in wheat chiefly on
fallow and would expect fifteen
bushels to the acre.

1800

18 acres in hemp at 500 wt. to an
acre is 9000 wt. at 10 cts.

900

2700

This crop would be managed with
six hands; for expences deduct
\$ 80 each

480
— 2220 00

I believe the above is a fair estimate; I am convinced I can make more pounds of hemp than of tobacco upon the same land, and that it is worth more, I refer to the state of the market for an average of years. That more land can be cultivated in wheat with a hemp than with a tobacco crop, is demonstrated by its being shown that hemp and wheat never require the planter's attention at the same time; whereas it is notorious that in harvest in the threshing and seeding, and in the preparation for seeding great attention is necessary to the tobacco crop; that the land is less injured, can be better prepared, and more of it manured, is equally obvious. But to put this out of all doubt, I subjoin the following statement to show the number of days work required to make each crop, and the season when the labor is performed. I do not take into the estimate the time that is required to break or prepare the land for hemp, because, precisely the same preparation would be advantageously bestowed upon the land that is to be planted in tobacco, and I have not noticed ploughing the tobacco.

Time necessary to cultivate a crop of 9000 tobacco hills, by one man, estimated in days work.	The same as to three acres of hemp.
Preparing, burning and seeding plant patches.	9 days, January and February.
Hilling, turning and cutting off.	20 days, April and May.
Planting and replanting.	4 days, May and June.
Weeding and hilling twice.	15 days, June and July.
Topping.	5 days July,
Worming and suckering.	24 days, August & September,
Cutting, housing and curing.	16 do. Aug. and September.
Stripping and prizing.	20 do. Fall and Winter.
Total (113 days.	

Pulling	12	August.
Picking up	3	
Spreading	3	November, March and April.
Picking up	3	
Breaking	18	
39 days.		

In this estimate I have said nothing of clearing land for tobacco, which precludes every other improvement, and unless tobacco is made upon new land, an average crop of 1500 to the hand ought not to be expected. Upon old or manured land, hemp is a more certain crop than tobacco. Manured land is best for hemp; every man who can manure an acre to the hand (and every man might do much more than that) may keep up a crop of three acres to the hand, as land that is manured, will continue to bring good hemp for more than three years, and after hemp, as after tobacco, you may expect a fine crop of wheat. I fear you will think you have cause to lament engaging in a correspondence with a man, who has so little consideration, as to give you the trouble of reading a letter of the length of this. My apology must be

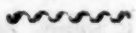
AGRICULTURAL MUSEUM

my desire to be useful. I would not have troubled you with observations on the tobacco crop, but for my knowledge that much tobacco is made in your state, and believing it as a rational object that the labor of every man should be employed to the most advantage, it occurred to me that it might be useful to make the comparison, that I take the liberty to present to you, although it did not fall within the scope of your enquiries.

I am respectfully, sir,
Your obedient servant,

WILSON C. NICHOLAS,

WM. W. RODMAN, Esq.
Washington, North Carolina.



No. II.

Woodville, Culpeper County, Virginia, May 11th, 1811.

SIR. SECRETARY,

Conceiving myself to be called upon, with my fellow citizens in general, to communicate to your Society the result of observation and experience in agriculture, I shall attempt, though awkwardly, to make a few remarks in reply to the seventh, sixteenth, and sixty first Queries, published in the "Enquirer" by order of the Richmond Society, for promoting Agriculture.— These remarks are wholly made from experimental practice, and though short and unconnected, may perhaps be not entirely useless, of which however your Society will best judge. The seventh Query, viz. "The best mode of preventing land under the plough from washing," is of immense consequence to all farmers, residing as I do in hilly broken land; and the plan which I have invariably pursued for seven years, has fully convinced me, that land under cultivation, may in a great measure be preserved from those destructive washes, which sudden and great rains, common in summer, frequently effect. In the first place the soil ought to be broken up very deep, which I have done with three horses fixed to a bar share

plough; which by following round the base of every hill, according to the situation, may be exceedingly well done, and as the pressure against the mould-board is less, so the draft is consequently lighter; and the sod equally as well turned as on a level. The common depth of my ploughing has been from six to nine inches, consequently that cultivated surface will contain a much greater quantity of water, before it begins to run off, than in a shallow ploughing. This subject will bring me to the sixteenth Query. "The best method of preparing land for Indian Corn and cultivating it." During the whole season of cultivating Indian Corn, the land is peculiarly exposed to rains, that frequently wash it in a dreadful manner. To remedy which, hilly land should be ploughed but one way, that is, there should be no cross ploughing; and the row should run horizontally on the side of a hill, or as nearly so as possible, so that none descend enough, to collect the water, which would inevitably sweep off a large portion of the adjoining surface. By pursuing the above course for seven years, my land has been constantly improving (with the addition of Plaster of Paris) which was before in a regular progress of deterioration, by repeated washings, &c. And though my situation is such that I cannot conveniently establish such a rotation of crops, as I think the most conducive to improvement; yet I see nothing to prevent us, with deep ploughing and proper cultivation, to make our hilly lands exceedingly productive. [The common mode of cultivating Indian Corn in the upper country, which has fallen under my observation is very injudicious and injurious to the soil; and I will here notice the method I have pursued during the above mentioned space of time.—When my land is well broken, lists are cast up with a plough seven feet a part, on which the corn is planted without crossing those lists, in hills about three feet apart. The mode of planting is novel; it is as follows; each hoer is provided with a small boy to drop the Corn; and when a small hole is made in the list by the hoe, the grain is thrown in, which is immediately covered by the hoer; and

in this manner they proceed. Though this method is apparently slow on being described; yet experience has proved it may be planted quicker, than in the ordinary mode; and though deep rooted prejudices are hard to be overcome, yet many of my neighbors after a sufficient trial, have become convinced of the truth of this assertion, and some have adopted the same plan. I never plough my Corn but twice, and immediately after each ploughing I follow with a harrow, which lays the surface level; and in great rains the water will frequently run over the surface without washing, and but rarely it breaks even in the vallies. Many farmers, through custom and prejudice, believe their crops would fail were they to plough only twice; but let the land be well broken in the first instance, and horizontally cultivated in the next, and with a moderate portion of hoeing it will be amply sufficient. The 61st Query. "The most beneficial application of Plaster of Paris, and to what soil it is best suited," can be readily answered in the view of land immediately below the Blue Ridge, and in no soil has it here failed to my knowledge. The clay and loam on our water courses, equally with the light friable soil which composes our hills, show its great advantages; but in the cultivation of Corn and Clover its application produces the greatest and most immediate profit—By using it with Indian Corn and cultivating my farm as I have here recommended, I have averaged six barrels of corn, two out of three successive years, in fields of sixty acres, which otherwise would scarcely have produced one half.—If the observations I have here made of horizontal ploughing, &c. should be of any service, my end will have been fully attained, that of benefitting my countrymen; if otherwise, I shall rest satisfied with having attempted to perform what I conceived my duty, and with sentiments of respect I subscribe myself, Your friend and fellow Citizen,

JOHN S. SLAUGHTER.

GEORGE HAY, Esq.

*Sec'y Richmond Agricultural Society,
Richmond, Va*

No. III.

The Tannin principle contained in Oak Bark, is equal to about three per cent. of its weight, consequently a cord of Bark, which when divested of the Ross, or scurf, weighs about a ton, will afford from sixty to seventy pounds of this substance. It is obtained by solution and evaporation. Ten casks filled with pulverised Bark are placed upon stills as is usual with Ley tubs, and water poured upon the first, and after a little time, is drawn into a second, thence into the third, and so on until it has passed through the ten casks—by which time the liquor marks from eight to ten degrees upon the Hydrometer, and will bear an Egg. Warm water accelerates the extract and should be used in preference to cold.—When the Bark in the first cask is spent, which may be readily ascertained by pouring a little solution of glue into the liquor, it must be removed, and filled with fresh Bark and then becomes the last upon which the water is drawn. As long as any Tannin remains in the liquor, by the admixture of the solution of Glue, it becomes turbid, which ceases to be the case when no Tannin is present.

Having thus obtained a quantity of strong liquor, a copper boiler is filled with it and heated to a 160 degrees, and left to simmer over the fire; a greater degree of heat evaporates a portion of the substance, which should be avoided, but it does not on that account injure the quality of the residuum. As the evaporation continues the Boiler is replenished with fresh liquor, until the quantity of residuum is sufficient for the capacity of the vessel, it is then suffered to condense by degrees, and when of the consistence of pitch, is to be taken out and put into casks for sale.

As an article of Export it is entitled to the greatest attention, since the expense of transportation, which alone prevents the exportation of Bark for the purpose of Tanning, is by this means reduced to one thirtieth part. In Tanning Leather it accelerates the process in nearly an equal ratio, its union with the gelatina of the Hide

being almost instantaneous.—To determine the value of this substance in England, if we take as the medium price of Bark 10*l*. sterling per cord, \$ 44 44 cents, it gives (allowing 65 to the cord) a value equal to 70 cents per lb.

If we estimate it by the value of Bark at Norfolk market, where the medium price is \$ 9, and \$ 5 allowed for its preparation, it gives 21 per lb.

I presume that the following estimate may be made in regard to the Oak Lands of the middle Country, which are annually cleared for cultivation.

Each acre will afford 10 cords of Bark	
or 650 lbs. Tannin, at 21 cents,	\$ 136 50
Cost of felling Trees I put down at	\$ 00 00
Stripping 10 cords of Bark	20
Grinding by a rolling stone, one man and horse preparing one cord per day	a 2 \$ 20
One hand attending Latches and eva- porating, 10 days	a 1 \$ 10
Tight cask to contain 650	2
Waggonage to Richmond	5
Freight and expenses to Norfolk	3— 60 00
<hr/>	
Leaving for 10 cords of Bark now ac- tually burnt	\$ 76 50

THEO: ARMISTEAD.

COLUMBIAN AGRICULTURAL SOCIETY.

At the fourth Semi-annual Meeting of the Columbian Agricultural Society, held at the Union Tavern in Georgetown, on Wednesday the 20th inst. Elie Williams, Thompson Mason, J. Schnebly, Bernard Gilpin, and Joshua Delaplane, being appointed judges of Cattle; and William Marbury, James M. Garnett, John Threlkeld, William S. Nichols, and Samuel Fitzhugh, judges of Manufactures, awarded the following distribution of Premiums, viz :

Premium 1. Forty Dollars—for the best Bull; to George Calvert, esq. of Prince Georges county, Maryland.

2. Thirty Dollars—for the best Heifer; to George Calvert, Esq. as above.

3. Thirty Dollars—for the best fat Bullock or spayed Heifer; to William Stinbergen, Esq. of Shenandoah county, Virginia.

4. Thirty Dollars—for the best yoke of Draft Oxen; none exhibited.

5. Twenty Dollars—for the best written Essay on the mode of geering and working oxen—No Essay offered of sufficient merit to entitle it to Premium.

6. Thirty Dollars—for the best piece of fulled and dressed cloth; to Mrs. Letitia Gilpin, of Montgomery county, Maryland.

7. Twenty Dollars—for the best piece of woolen Kersimere; none exhibited.

8. Twenty Dollars—for the best piece of cloth, cotton warp filled with wool, to shew the wool on one side; to Mrs. Sarah M'Carty Mason, of Hollin Hall, Fairfax county, Virginia.

9. Twenty Dollars—for the best piece of fancy patterns for Vests, of wool and cotton; to Mrs. Martha P. Graham of Dumfries, Prince William county, Virginia.

10. Twenty Dollars—for the best piece of Flannel, all wool; to Mrs. Martha Lindsay of Fairfax county, Virginia.

11. Fifteen Dollars—for the best piece of Flannel, part cotton and part wool; to Mrs. Martha P. Graham, as above.

12. Ten Dollars—for the best pair of fine woollen stockings; to Mrs. Alice Wood, of Fairfax county, Virginia.

13. Twenty Dollars—for the best pair of fine woollen Blankets; to Mrs. Elizabeth Maynadier, of Belvoir, Ann Arundel county, Maryland.

14. Ten Dollars—for the best pair of stout coarse Blankets for labourers ; to Mrs. Marthy P. Graham, as above.

15. Ten Dollars—for the best parcel of flaxen or hempen sewing thread to Mrs. Wren, of Fairfax county, Virginia.

16. Thirty Dollars—for the best woolen Carpet, of Carpeting in the piece, to Mrs. E. Leawright of county, Virginia.

The day was rainy, and therefore unfavourable to the exhibition, especially of cattle.—Of above a hundred that had been brought into the town and neighborhood, not more than six or eight were exhibited—the state of the weather rendered it so inconvenient. Those that were shewn, were of superior size and quality. Mr. Stinbergen's Bullock is supposed to be the largest that ever was raised in Virginia.—The following is an account of his weight.

	<i>Feet. In's</i>
Girt round the body, just behind the fore leg	9 9
Length from the nose to the end of the tail	14 10
Height over the shoulder	6
Beef	<i>lbs.</i> 1668
Hide	134
Tallow	211
	—2013
Head	55
Feet	27
Haslet, Liver, &c.	66
	—148
Blood	114
Entrails	330
	—444
Whole weight of carcase as on foot	<i>lbs.</i> 2,605

Great care was taken in weighing every part, so that there is no allowance for wastage.

He was one of a drove of upwards of eighty, which Mr. Stinbergen brought from his own farm, on the north branch of the Shenandoah.

He was but five years and five months old when exhibited—and had travelled about one hundred and twenty miles, in seventeen days, which it is reasonable to suppose reduced him very considerably, at least 150 lbs. in neat beef, and more in proportion, in the gross.

There was a considerable variety in the articles exhibited, of Domestic Manufacture—they were all of excellent quality—those shewn for premium were purely domestic—made in families—most of them at little or no expence, by women and children, and by others, in wet weather and at seasons when they would have otherwise been idle, or would have done little or nothing to profit.

The following gentlemen were appointed Officers of the Society for the ensuing year.

President—Osborne Sprigg, of Northampton, Prince Georges county, Maryland.

Vice President—Thompson Mason, of Hollin Hall, Fairfax county, Virginia.

Secretary—David Wiley, of Georgetown, District of Columbia.

It was resolved that the number of the Standing Committee be increased, and that the following gentlemen be appointed, viz :

For the District of Columbia.

John Mason,	}	of Washington county.
John Threlkeld,		
Robert Brent		
William Cranch,		
William Marbury,	}	of Alexandria county.
Nicholas Fitzhugh,		
Wm. A. Dangerfield,		
George W. P. Custis,		

For Maryland.

William Mason, of Charles county.	
Bernard Gilpin,	} of Montgomery county.
Roger Brooke,	
Joseph Kent,	} of Prince Georges county,
George Calvert,	
Henry Maynadier,	} of Ann Arundel.
Chs. Carroll, of Carrollton,	
Athanasius Fenwick, of St. Mary's county.	
Samuel Ringgold, of Washington county.	

For Virginia,

William H. Foote,	}	of Fairfax county.
George Graham,		
Richard M. Scott,		
Wilson C. Selden,	}	of Loudon county.
Charles F. Mercer,		
John Williams,	}	of Prince William county.
Robert Graham,		
Daniel C. Brent,	}	of Stafford county.
John T. Brooke,		
Ferdinando Fairfax,	}	of Jefferson county.
John Downey,		
Wm. Stinbergen,		

of Shenandoah county.

The Standing Committee then adjourned to meet again at the Union Tavern in Georgetown, on Saturday the 23d inst. at 11 o'clock A. M. for the purpose of fixing on the Premiums to be given at the General Meeting in May next.

DAVID WILEY, Sec'ry:

Georgetown, Va. Nov. 21st, 1811.

MANUFACTURE OF MOROCCO LEATHER AND SHOES,
At Lynn, (Massachusetts.)

Perhaps the town of Nahant and Lynn, in Massachusetts, exceeds all places in the United States for the manufacture of shoes. In the course of the year 1811, nearly one million pair of women's shoes were made by the industrious inhabitants. They are formed of domestic sheep and foreign goat-skins, dressed in the Morocco fashion. The former are risen to great value in the shoe making business. The pelt of a sheep, but a few years ago, was not worth more than from six to nine cents. They have since fetched forty and even fifty—and when finished for making the neatest shoes and slippers, are valued at two dollars and a quarter; a price as great as the entire animal, meat, wool and all, used formerly to bring.

The first English Morocco was brought into America in the year 1793, by Mr. Ebenezer Breed. It was then

difficult to persuade the cordwainers of New York and Philadelphia to work it up into shoes. At that time, florentines, sattinets and silks were chiefly in vogue for ladies wear. But, at length, Morocco took a run, and became so fashionable, that considerable quantities were imported from England to supply the home demand.

Domestic manufactories of Morocco were begun about 1796 or 1797 ; and have progressed in such a manner, that there is no occasion whatever for the imported material. Indeed the whole union is now supplied with Morocco shoes, entirely of domestic manufacture.

NEW-YORK, August 1.

MANUFACTURES.

Extract of a letter from the Hon. Robert R. Livingston of the state of New-York to a southern Correspondent.

CLERMONT, 25th May, 1811.

“ The quantity of fine wool that has been imported in consequence of the present state of things in Europe, and the number of Merinoes cannot fail very shortly to establish our manufactories. No less than one hundred weavers have arrived at New-York in one ship from Ireland—seventy had arrived a little before, and all were directly engaged in our cotton manufactures. I do not doubt that you will ere long find an advantage in turning your tobacco plantations into sheep walks, and thus be freed from any dependence upon Europe.”

A citizen of this state has lately deposited in the Patent Office, drawings, specifications, of a machine for cutting files. This machine will perform the labour of six or eight hands per day. It will cut with the greatest accuracy. Any description of files, from the coarsest to the finest, may be cut by changing one wheel or pinion.

WORCESTER *ÆGIS*.

USEFUL INVENTIONS, DISCOVERIES AND IMPROVEMENTS.

Cheap Painting in imitation of Paper-staining.

A patent for this discovery having issued from the United States to Augustus Uz, the inventor, we give here the substance of his advertisement in the United States Gazette. ————— He observes, that painting of walls in water as well as oil colours was in vogue, and its durability established, long before papering was thought of; that the mode of executing it was very expensive, and the printing figures on paper, and pasting that paper on the wall, became a cheap substitute to answer a temporary purpose. The *Patent Painting* does not differ from the ancient mode any further than that the figures imitate those of paper hangings and are executed with stencils instead of pencils; which facilitates the work so greatly as to bring it far below the price of papering, and is besides far more durable. This discovery, says the inventor, will add considerably to the value of the painting, without augmenting the expense, and by which all water-colours are hardened to an absolute degree of petresfaction. A plain ground, with rich bordering, far exceeds in beauty plain paper, costs one hundred per cent less, and can be renewed for considerably less than first cost.

A new Cement for Walls.—Mr. Uz likewise advertises, that he has obtained a patent for preparing and using a Cement as the *last coat of plastering*, which will become as hard as stone, and is impenetrable to water or dampness. This has been proved by its application to a number of *Oil and Salt-water Cisterns*, where it was found to be perfectly tight and indissoluble.

Improved Mangle.—Mr. Ferguson, a Scotch millwright, has lately made a Mangle upon a novel construction, and which is said to possess great merit. It stands on perhaps less than four feet square; is excited by a lever acting on a wedge, which is very powerful; and is a very handsome article—price £15 sterl. It is said he can make them on a somewhat different plan for about £5.